PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference TP102226/ER	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/FI 2003/000464	International filing date *(day/month/year)* 12.06.2003	Priority date *(day/month/year)* 14.06.2002
International Patent Classification (IPC) or national classification and IPC B21D 5/02, G05B 19/4093		
Applicant Finn-Power OY et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:

   a. ☒ *(sent to the applicant and to the International Bureau)* a total of 3 sheets, as follows:

   ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

   ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s))

   _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒	Box No. I	Basis of the report
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
30.12.2003	16.09.2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Anders Brinkman/ELY Telephone No. +46 8 782 25 00

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/FI 2003/000464

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

☐ the international application as originally filed/furnished

☒ the description:

pages 1-16 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☒ the claims:

pages _____ as originally filed/furnished
pages* _____ as amended (together with any statement) under Article 19
pages* 18-20 received by this Authority on 18-06-2004
pages* _____ received by this Authority on _____

☒ the drawings:

pages 1-5 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing *(specify)*: _____
☐ any table(s) related to the sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing *(specify)*: _____
☐ any table(s) related to the sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/FI 2003/000464

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims	1-10	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document of special interest cited in the International Search Report:

D1: Patents Abstract of Japan, JP 2001242920 A
D2: Patents Abstract of Japan, JP 3-146225 A

Explanation

The invention relates to a method in the control of a press brake cell formed by a numerically controlled press brake and at least one robot. An aim of the invention is to provide a new method for designing a movement program for the robot(s) that serves the press brake. The designing of the movement program for the robots shall be easy and time efficient.

D1 describes a bend-process method and its equipment. According to the abstract the problem is "To provide a bend process method and its equipment to eliminate input operation of a bend line in the previous job process by adding the bend lines to a developed elevation chart without the lines while its processing data is worked out for the chart.". This problem is solved by "A selection method 35 to select a flange part in the above described developed elevation chart to display a bend sequence for the chart without the bend lines which is displayed on a display means 31, an input means 29 to input such bend line information like flange dimensions or bumping dimensions, angle of bend, direction of bend of the flange part of the chart selected in this selection method 35, a definition method 37 to define the bend lines regarding the flange part selected in the above described chart based on the bend line information fed by the input means 29, a bend programming method 39 to generate bend process program in accordance with the chart with bend lines defined in this definition method 37, thus, each one of these characteristics constitute the feature."

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: V

Claim 1

According to the invented method described in claim 1 a bend line table (BLT) is compiled in a fifth step, whereby the bend line table in a sixth step is set to be used as a variable for movement programs for one or more robots serving a press brake.

The bend-process method according to D1 does not describe the use of a robot that serves the known press brake or the use of a bend line table for the purpose mentioned above. Since D1 does not mention the use of a robot it cannot relate to the same problem as the invented method does.

D1 is not considered to give the person skilled in the art such information that he/she would arrive at the method according to claim 1.

D2 discloses a press brake that is served by a robot. However, D2 does not reveal a method according to claim 1 of the application.

Neither of D1 and D2 or any other citation, individually or in combination, in the International Search Report is considered to lead the person skilled in the art to the claimed method. Therefore, the method according to claim 1 is novel and considered to involve an inventive step. The claimed method is also considered to be industrially applicable.

Claims 2-10

Since claims 2-10 are dependent on claim 1 they also are novel, considered to involve an inventive step and considered to be industrially applicable.